Title (en)

BURNER ASSEMBLY WITH ENHANCED FLEXIBILITY

Title (de)

BRENNERANLAGE MIT ERHÖHTER FLEXIBILITÄT

Title (fr)

ENSEMBLE BRÛLEUR A FLEXIBILITÉ RENFORCÉE

Publication

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Application

EP 09772471 A 20090701

Priority

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- EP 08011920 A 20080702
- EP 09772471 A 20090701

Abstract (en)

[origin: EP2141129A1] The burner assembly comprises a burner block having an inlet side and an outlet side, a passage for a combustive fuel between the inlet and out sides, n primary combustible blowing irons (111), where n is greater than 1, a device for supplying fuel towards the burner block using a fuel source by injecting the fuel through fuel passage in a combustion zone, which is present in upstream of the outlet side, a primary device for supplying fuel towards the burner block using the fuel source, p secondary combustible blowing irons, where p is greater than 1, and a secondary fuel supply device. The burner assembly comprises a burner block having an inlet side and an outlet side, a passage for a combustive fuel between the inlet and out sides, n primary combustible blowing irons (111), where n is greater than 1, a device for supplying fuel towards the burner block using a fuel source by injecting the fuel through fuel passage in a combustion zone, which is present in upstream of the outlet side, a primary device for supplying fuel towards the burner block using the fuel source, p secondary combustible blowing irons, where p is greater than 1, and a secondary device for supplying fuel towards the burner block using a second fuel source by injecting the fuel through fuel passage in the combustion zone. The burner block is present in such a manner that m combustible blowing irons are simultaneously mounted in the block through the blowing iron passage, where m is greater than 1. Each of the primary blowing irons are mounted in the blowing passages and removed from the passage through the inlet side of the block. The primary device comprises a first supply line (100), a first flow meter, a first distributor (101), n primary flexible lines connecting the first distributor with n primary combustible blowing irons, and gates (130, 131) for opening and closing the n primary flexible lines. The primary supply line transports the flow of fuel towards the first distributor. The first flow meter regulates the flow of first fuel towards the first distributor. The first distributor is adapted to distribute the flow of first fuel in n flow subsidiaries on n first flexible lines. When x number of n primary flexible lines are closed by the gates, with 1= x= n-1, the primary distributor distributes the fuel on n-x primary flexible lines, which are opened for its injection in the combustion zone through the blowing irons connected to the primary flexible line (121) openings. Each of the secondary blowing irons are mounted in the blowing passages and removed from the passage through the inlet side of the block. The secondary supply device comprises a second supply line, a second flow meter, a second distributor, p primary flexible lines connecting the second distributor with p secondary combustible blowing irons, and gates for opening and closing the p secondary flexible lines. The secondary supply line transports the flow of fuel towards the second distributor. The second flow meter regulates the flow of second fuel towards the second distributor. The second distributor is adapted to distribute the flow of second fuel in p flow subsidiaries on p first flexible lines. When y number of p secondary flexible lines are closed by the gates, with 1= y= p-1, the secondary distributor distributes the fuel on p-y secondary flexible lines, which are opened for its injection in the combustion zone through the blowing irons connected to the secondary flexible line openings. The assembly undergoes one or more conditions including n=m, n=m+1, n=p, p=m, p=m+1 and m=2. The combustive fuel has an oxygen content of 90 vol.%. One of the flows of fuel is a flow of secondary fuel injected into the combustion zone through combustion passage located at a distance ds greater than 0 or the passages of blowing irons. One of the flow of fuel is a flow of primary fuel injected in the combustion zone through combustible iron passages or fuel passage situated at a distance dp of the passage of the combustible irons, where dp less than ds. The burner block is an assembly of refractory bricks, and is mounted in a wall of a furnace. The combustion zone in upstream of the outlet side is situated inside the furnace. An independent claim is included for a process for combustion using burner assembly.

IPC 8 full level

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